

AMENDMENTS TO THE CLAIMS

The following listing of the claims shall replace all previous listings of the claims.

Listing of Claims:

[[3.]] 1. (Currently amended) In a Carrier Interferometry (CI) transmitter: a CI coder adapted to encode at least one data sequence onto a CI code to produce at least one data-bearing code vector, and a modulator adapted to modulate the at least one data-bearing code vector onto a plurality of subcarriers.

[[4.]] 2. (Currently amended) The CI transmitter recited in claim 1 wherein the modulator includes an invertible transform module.

[[5.]] 3. (Currently amended) The CI transmitter recited in claim 2 wherein the invertible transform module is adapted to perform at least one of a Fourier transform, a chirp Z transform, and a sliding transform.

[[6.]] 4. (Currently amended) The CI transmitter recited in claim 1 wherein at least one of the modulator and the CI coder is adapted to scramble CI codes generated by the CI coder.

[[7.]] 5. (Currently amended) The CI transmitter recited in claim 1 wherein at least one of the modulator and the CI coder is adapted to provide frequency variations to the subcarriers.

[[8.]] 6. (Currently amended) The CI transmitter recited in claim 1 wherein the CI coder is adapted to provide for channel coding.

[[9.]] 7. (Currently amended) The CI transmitter recited in claim 1 wherein at least one of the modulator and the CI coder is adapted to dynamically allocate subcarriers for at least one communication link.

[[10.]] 8. (Currently amended) The CI transmitter recited in claim 1 wherein the CI coder is adapted to perform at least one CI coding algorithm configured to non-uniformly spread the at least one data sequence across the plurality of subcarriers.

[[11.]] 9. (Currently amended) In a Carrier Interferometry (CI) receiver: a demodulator adapted to demodulate at least one data-bearing CI code vector modulated on a plurality of subcarriers, and a CI decoder adapted to decode at least one received data sequence impressed onto the CI code vector.

[[12.]] 10. (Currently amended) The CI receiver recited in claim 9 wherein the demodulator includes an invertible transform module.

[[13.]] 11. (Currently amended) The CI receiver recited in claim 10 wherein the invertible transform module is adapted to perform at least one of a Fourier transform, a chirp Z transform, and a sliding transform.

[[14.]] 12. (Currently amended) The CI receiver recited in claim 9 wherein at least one of the demodulator and the CI decoder is adapted to descramble CI codes.

[[15.]] 13. (Currently amended) The CI receiver recited in claim 9 wherein at least one of the demodulator and the CI decoder is adapted to compensate for subcarrier frequency variations.

[[16.]] 14. (Currently amended) The CI receiver recited in claim 9 wherein the CI decoder is adapted to provide for channel decoding.

[[17.]] 15. (Currently amended) The CI receiver recited in claim 9 wherein at least one of the CI decoder and the demodulator are adapted to perform successive interference cancellation.

18. -20. (renumbered as 16-18) (Canceled)